Wyoming Water Supply Report

Popo Agie River near Lander – May 14, 2005

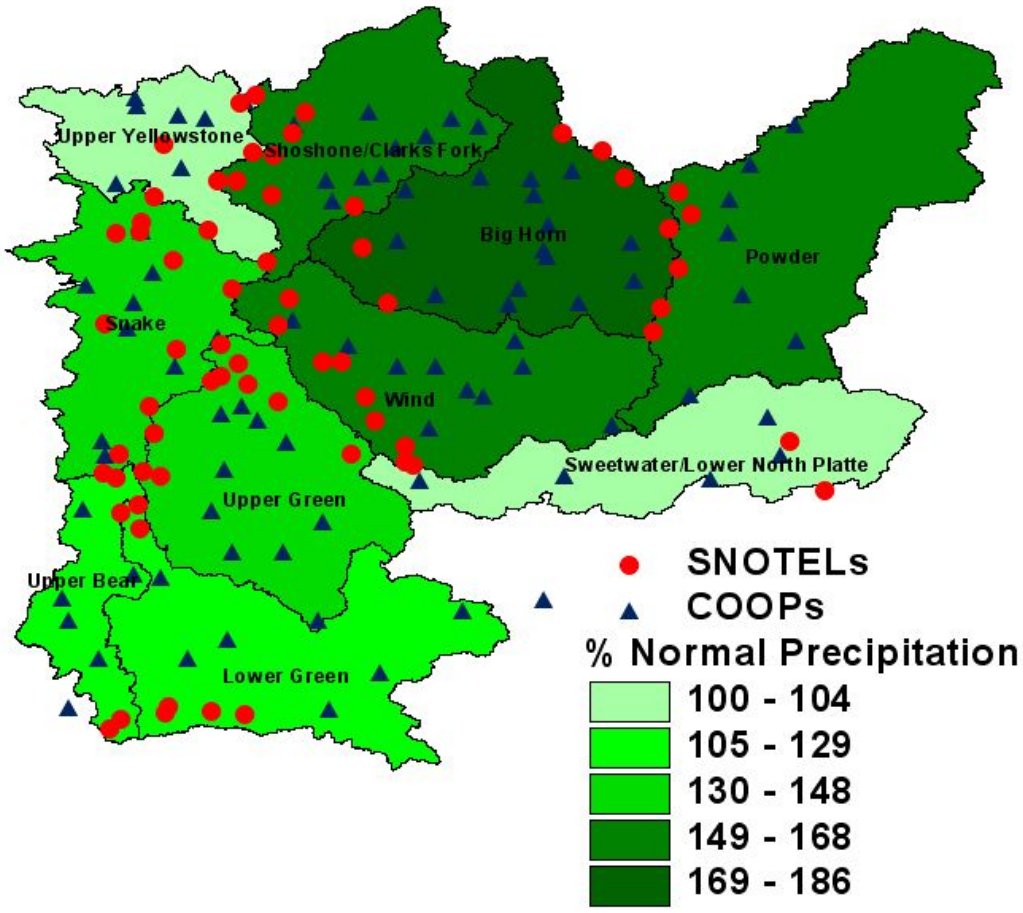
June 13, 2005

Year-to-Date Precipitation – Wyoming

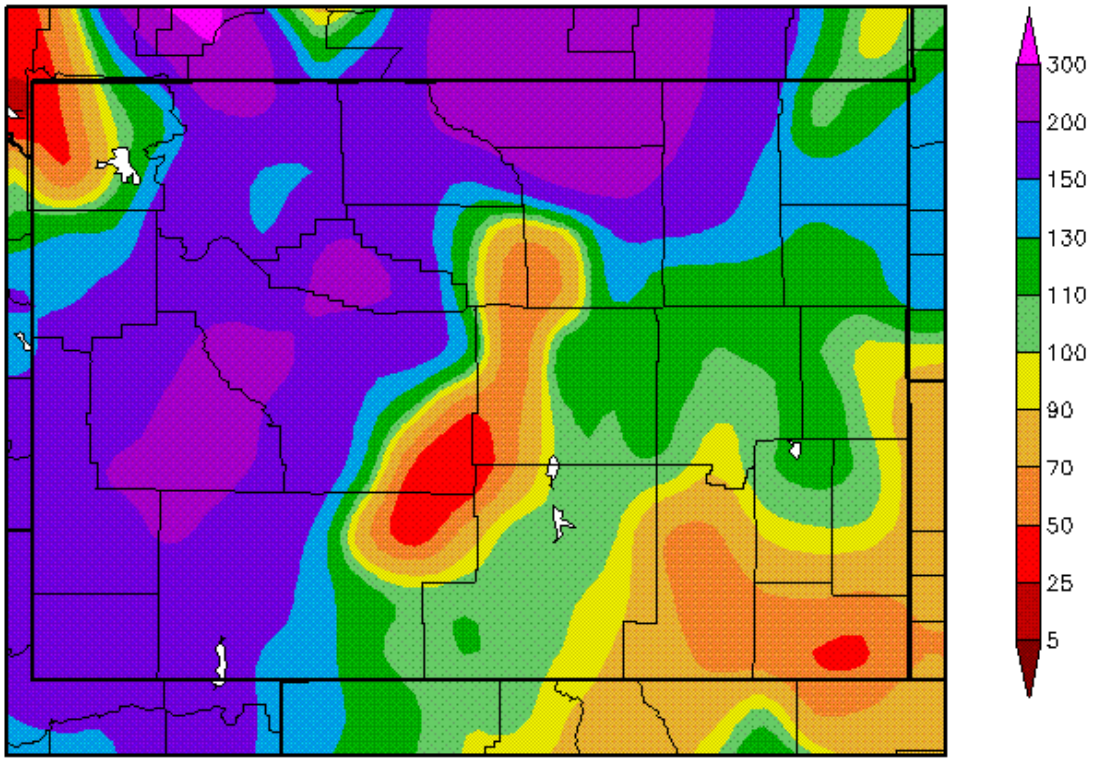
A majority of Wyoming river basins observed above normal precipitation in May through early June. This has resulted in near normal to above normal precipitation for water year 2005 (water year runs from October 1 to September 30). In fact, since the water year began, nearly half of the counties in Wyoming have observed near normal or above normal precipitation. It is also notable that most river basins have recorded 100 to 130 percent more precipitation than that of water year 2004 (see table below). The table below provides the year-to-date (YTD) precipitation as a percent of average across 13 river basins within the state as of June 1, 2005 (statistics unavailable for the South Platte drainage in southeast Wyoming). The graphic on the following page is the percent of normal precipitation for May 2005 for major river basins in western and Central Wyoming. Given on page three, are two graphics showing the percentage of normal precipitation observed statewide for May 2005 (top) and for the current water year (bottom).

River Basin	Wyoming 2005 Precipitation (% of average)	% of Precipitation Last Year
Snake	79	92
Upper Yellowstone-Madison	74	86
Wind	93	109
Bighorn	99	128
Shoshone-Clarks Fork	78	97
Powder-Tongue	101	135
Belle Fourche	90	121
Upper North Platte	94	119
Lower North Platte	84	122
Little Snake	97	113
Upper Green	94	113
Lower Green	102	134
Upper Bear	96	127

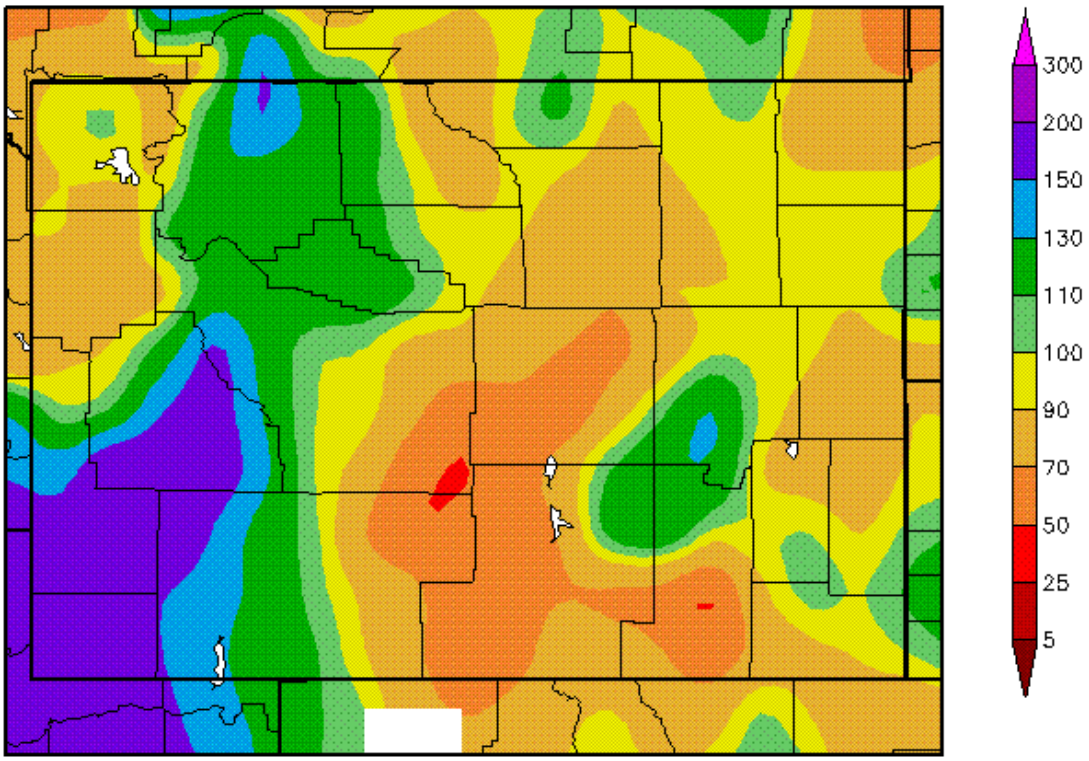
Percent of Normal Precipitation by Basin for May 2005



Percent of Normal Precipitation (%)
5/1/2005 – 5/31/2005



Percent of Normal Precipitation (%)
10/1/2004 – 5/31/2005



Generated 6/1/2005 at HPRCC using provisional data.

NOAA Regional Climate Centers

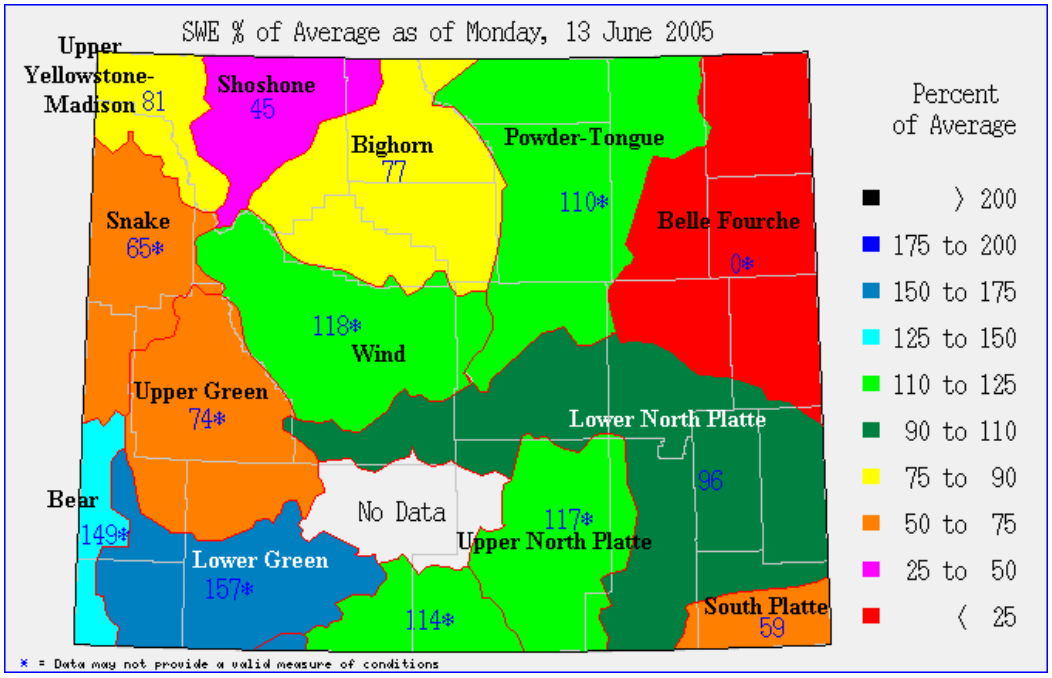
Reservoirs

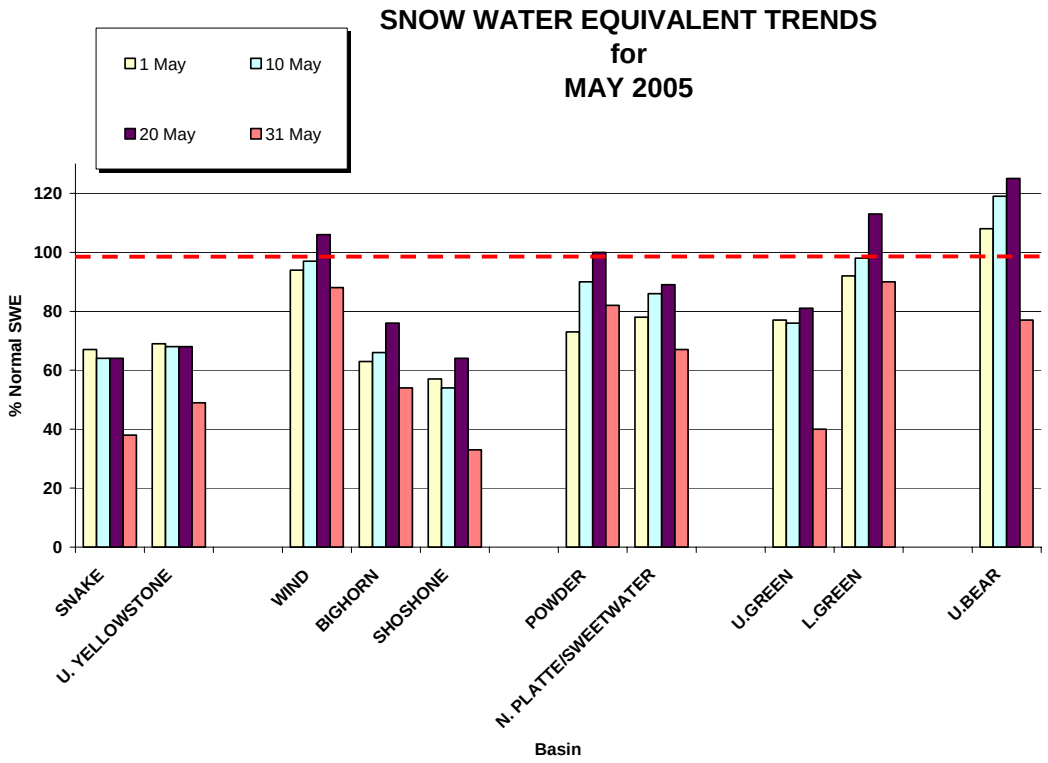
Reservoir storage varies widely across the state for this time of year. Overall, reservoir storage across Wyoming is greatly improved from readings at this time last year. The table below provides the percent of capacity for the current water year and for water year 2004 for 29 reservoirs within the state as of June 1. The reservoirs with the greatest increase in storage capacity from last year are highlighted in red.

RESERVOIR	% CAPACITY	% CAPACITY LAST YEAR
ALCOVA	98	96
ANGOSTURA	51	66
BELLE FOURCHE	59	69
BIG SANDY	99	49
BIGHORN LAKE	66	48
BOYSEN	108	66
BUFFALO BILL	93	62
BULL LAKE	91	40
DEERFIELD	88	98
EDEN	93	0
ENNIS LAKE	86	69
FLAMING GORGE	79	69
FONTENELLE	89	70
GLENDO	89	70
GRASSY LAKE	63	64
GUERNSEY	63	63
HEBGEN LAKE	96	87
JACKSON LAKE	54	54
KEYHOLE	52	57
PACTOLA	77	87
PALISADES	83	26
PATHFINDER	21	26
PILOT BUTTE	85	46
SEMINOE	48	33
SHADEHILL	57	80
TONGUE RIVER	101	59
VIVA NAUGHTON RES	100	100
WHEATLAND #2	47	24
WOODRUFF NARROWS	83	54
TOTAL OF 29 RESERVOIRS	72	55

Snowpack

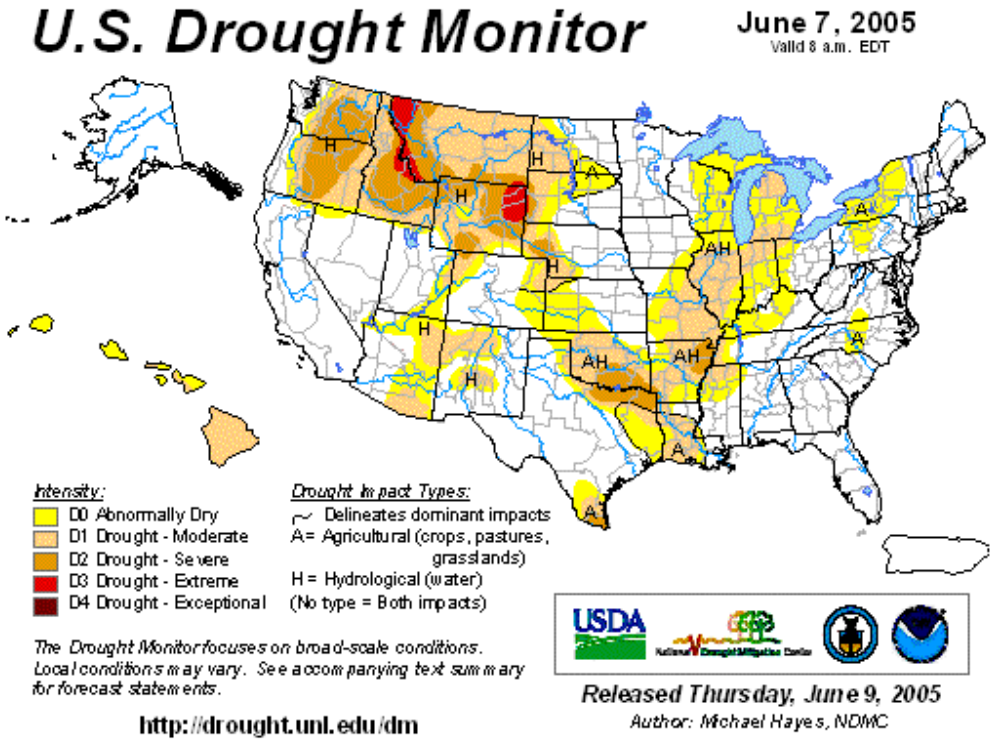
Cooler and wetter conditions across Wyoming for May and early June have slowed the onset of the melt of higher elevation snowpack (above 9,500 feet MSL) for a majority of river basins. Last year at this time, the state average was 25% with a low of 2% and a high of 69% of average. This year the state average is 71% with a low of 0% and a high of 102% of average. Shown below is the percent of average snow water equivalent for a majority of basins in Wyoming. **Note:** The high percentages for a number of basins mainly represent high elevation snowpack (above 9,500 feet MSL) and may not be a realistic figure for the entire basin. Also provided are the snow water trends for a number of basins in western and central Wyoming.

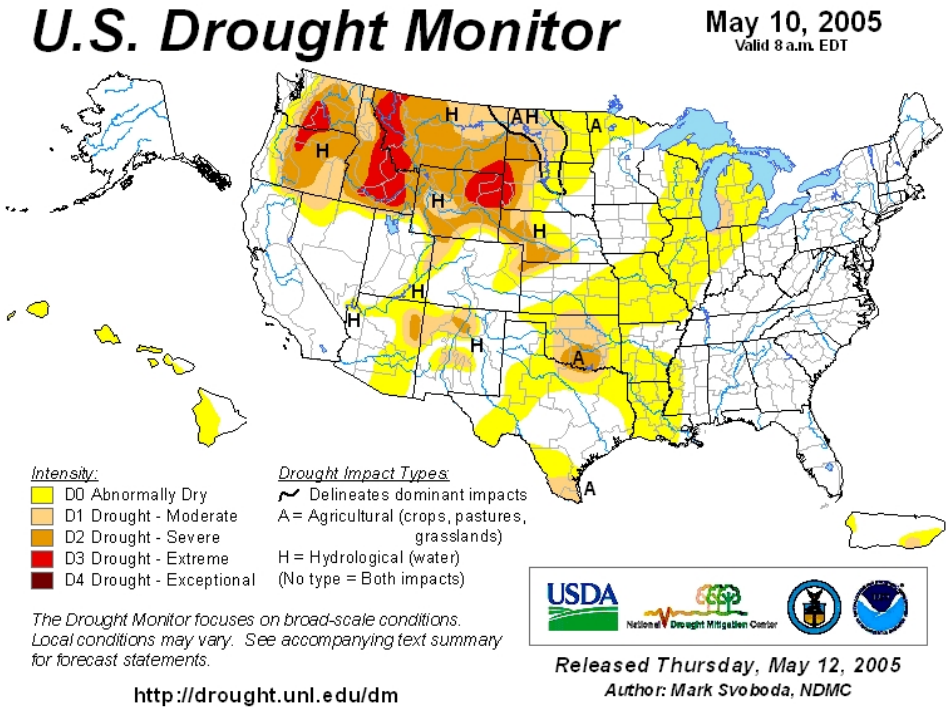


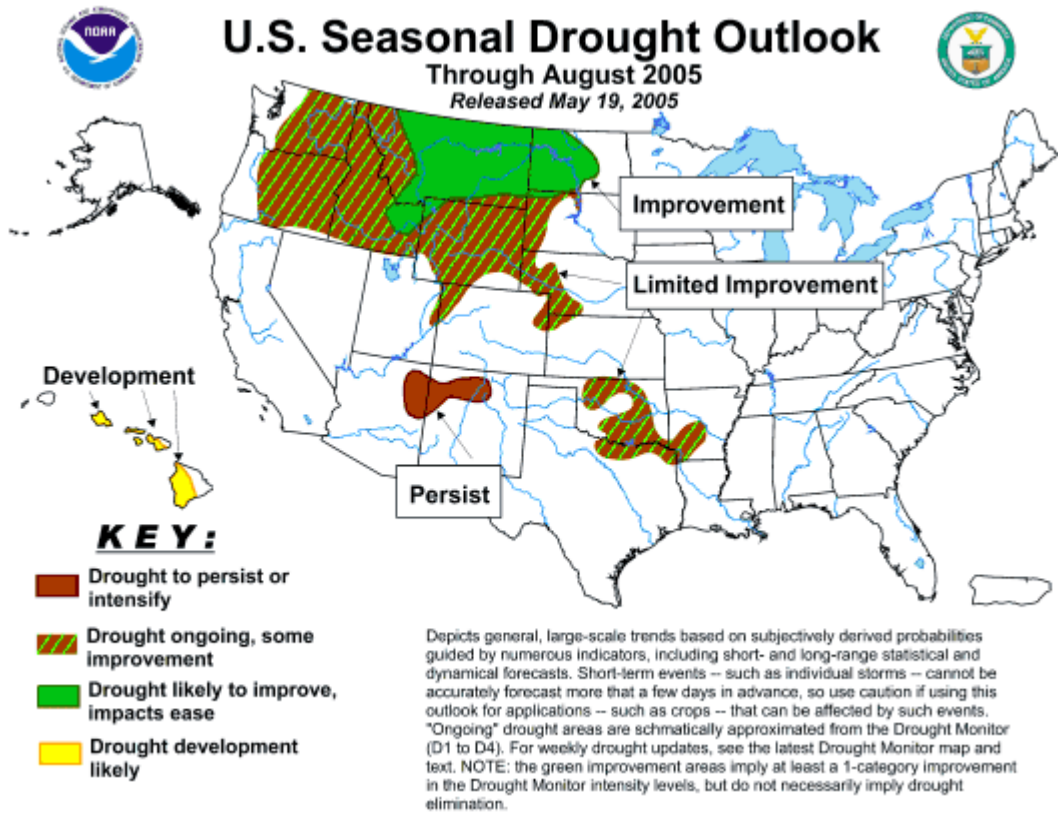


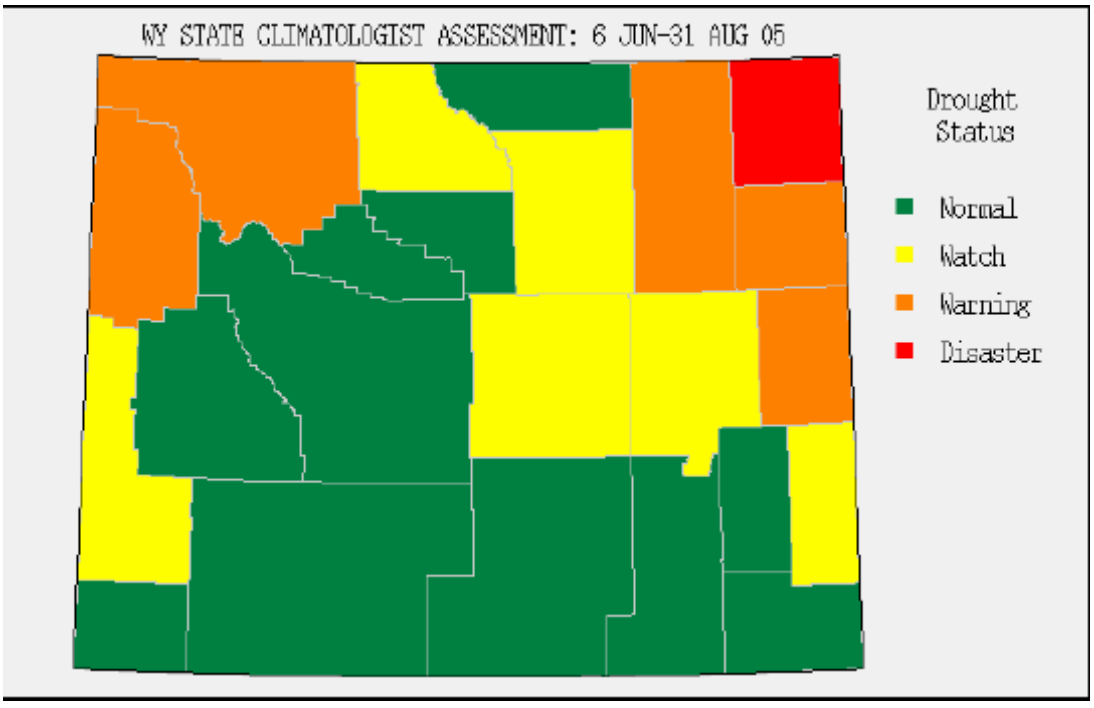
Drought Monitor and Forecast

Drought conditions continue to improve across Wyoming. Many basins in western and central Wyoming have improved to being only categorized as having a moderate hydrologic drought instead of a severe to extreme hydrologic drought (top graphic). The Drought Monitor from May 10, 2005 is provided (bottom) for comparison. On the following page, the long range forecast also reveals continued good news for Wyoming - as most of the state is expected to continue to see improvements to the long term drought. The bottom graphic on the next page reveals the latest Wyoming drought assessment by Wyoming State Climatologist, Jan Curtis.









Wyoming County Drought Assessment through summer 2005
Courtesy of Jan Curtis - State Climatologist

Wyoming Streamflow Volume Forecasts as of June 10, 2005

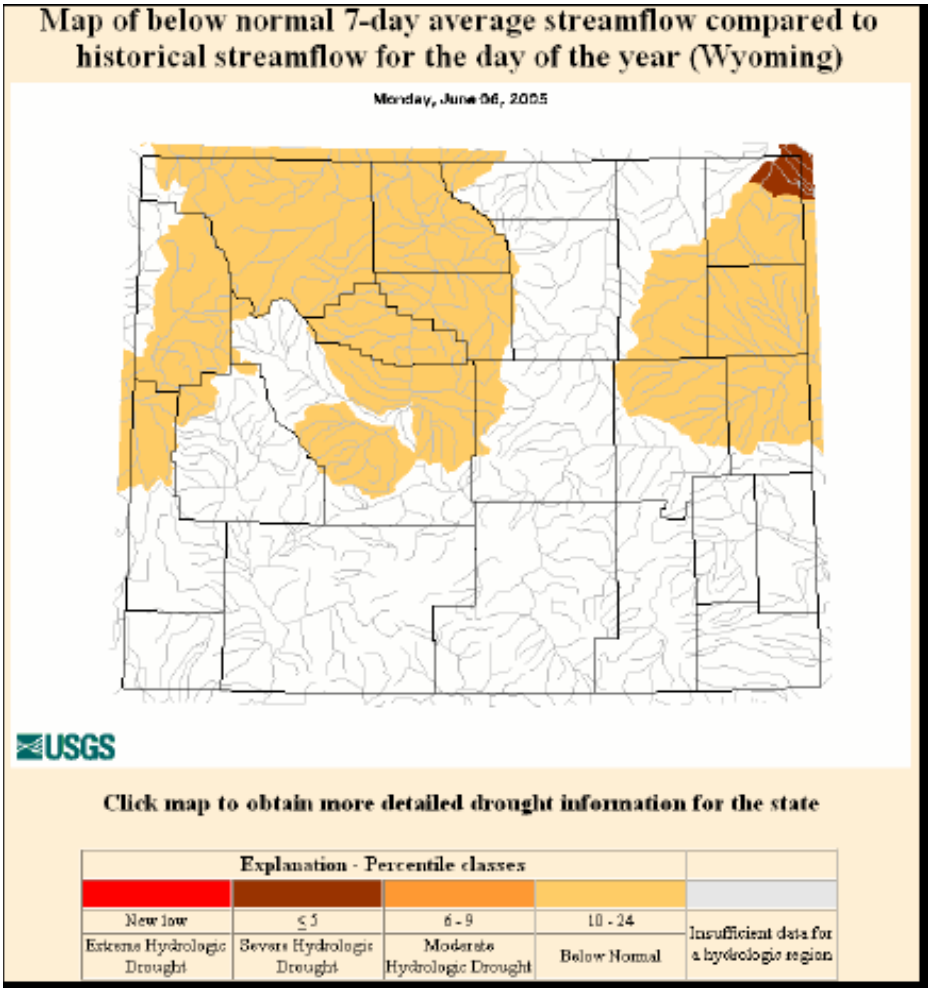
Spring and summer runoff streamflow volume forecasts are nearing normal for many locations across the state. Snowmelt runoff coupled with above average precipitation produced above average streamflows in much of the Upper and Lower Green River Basins during May. Runoff volumes through July are expected to be 155% of normal for the Upper and Lower Green Basins. A large portion of the lower to middle elevation snowpack melted away during May in a majority of river basins east of the Continental Divide. Therefore, snowmelt streamflow volumes are expected to be below normal for the remainder of the spring and summer for the Upper Yellowstone, Shoshone, Bighorn, Sweetwater, and Wind River, Laramie, and North Platte Basins.

Most probable runoff volume yield for all of Wyoming is forecast to be below average at around 85% (varying from 63-116% of average).

Below are specific river volume forecasts for late spring through summer. Listed is the river name with specific forecast points on that river given below the river title. Forecasts for this year are given in thousands of acre feet (kaf) along with the percent of average that this forecast runoff volume represents. Also provided is the 30-year average runoff volume in thousands of acre feet (kaf). The *WaterWatch* graphic at the top of page 11 shows the USGS water resources conditions (as of June 6, 2005) using a 7-day average streamflow and comparing that with historical streamflow for the same 7-day period.

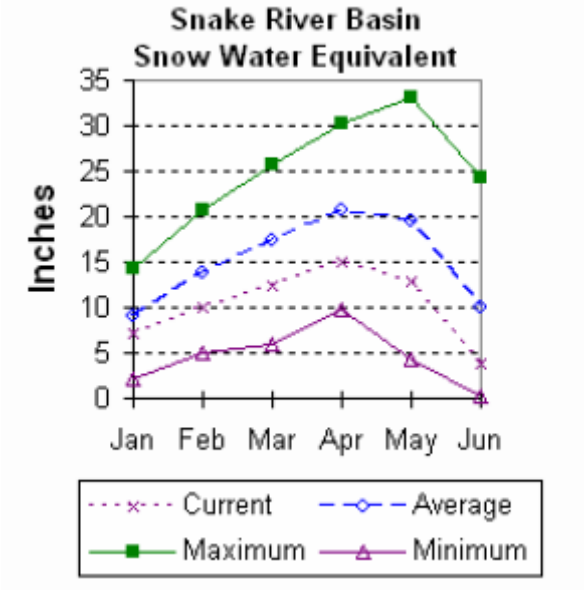
	Forecasts This Year			30 Year '71-'00 Average Runoff
		Most Probable		
Stream and Station	Forecast Period	kaf	%avg	kaf
Green River				
Daniel, nr, Warren Bridge, at, WY	Apr-Jul	265	100	265
Fontenelle Res, Fontenelle nr, WY	Apr-Jul	1000	116	860
Green River,nr, WY	Apr-Jul	1020	117	875
Flaming Gorge Res, Flaming Gorge	Apr-Jul	1300	109	1190
Pine Creek				
Fremont Lake, abv, WY	Apr-Jul	109	105	104
New Fork River				
Big Piney, nr, WY	Apr-Jul	450	114	395
Big Sandy River				
Farson, nr, WY	Apr-Jul	64	110	58
E.F. Smiths Fork River				
Robertson, nr, WY	Apr-Jul	27	87	31
Hams Fork River				
Viva Naughton Res, WY	Apr-Jul	102	115	89
Frontier, nr, Pole Ck, below, WY	Apr-Jul	73	102	65
Little Snake River				
Dixon, nr, WY	Apr-Jul	300	91	330
Slater, nr, WY	Apr-Jul	146	92	159
Snake River				
Jackson Lake Inflow	Apr-Sep	700	77	904
Alpine nr, WY	Apr-Sep	2550	77	3331
Grey's River				
Palisades abv, WY	Apr-Sep	335	85	394
Salt River				
Etna nr, WY	Apr-Sep	290	85	342
Yellowstone River				
Yellowstone Lake Outlet, WY	Apr-Sep	430	62	695
Wind River				
Boysen Reservoir Inflow, WY	Apr-Sep	515	85	609

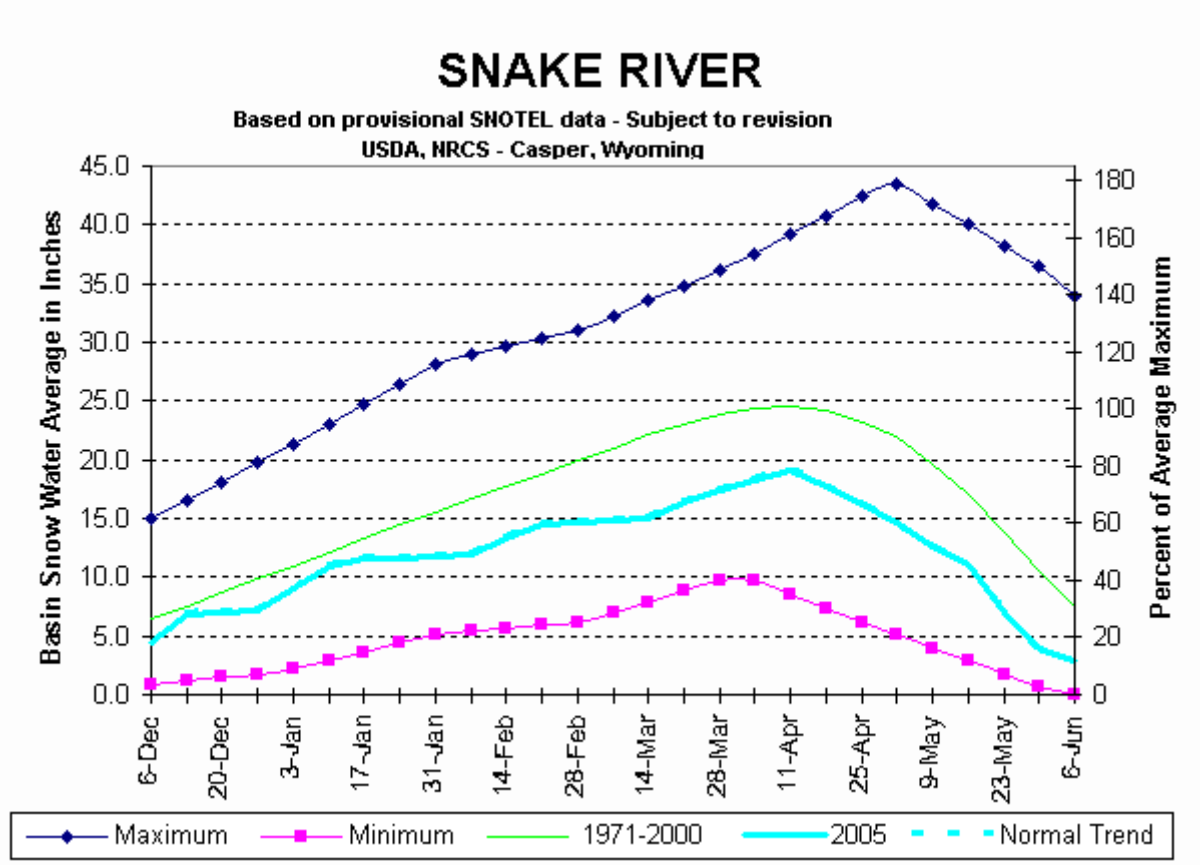
Stream and Station	Forecast Period	Forecasts This Year Most Probable kaf	Most Probable %avg	30 Year '71-'00 Average Runoff kaf
Greybull River				
Meeteetse, WY	Apr-Sep	154	94	163
Shell Creek				
Shell nr, WY	Apr-Sep	55	106	52
Shoshone River				
Buffalo Bill Res. Inflow	Apr-Sep	445	75	595
Tongue River				
Dayton nr, WY	Apr-Sep	74	104	71
Clear Creek				
Buffalo nr, WY	Apr-Sep	25	89	28
North Fork Powder River				
Hazleton nr, WY	Apr-Sep	4.9	83	41
Encampment River				
Encampment nr, WY	Apr-Sep	106	98	108
Rock Creek				
Arlington nr, WY	Apr-Sep	31	76	41
North Platte River				
Seminoe Reservoir Inflow	Apr-Jul	335	77	435
Seminoe Reservoir Inflow	Apr-Sep	385	77	500
Sweetwater River				
Alcova, WY	Apr-Jul	38	115	33
Alcova, WY	Apr-Sep	44	113	39
La Prele Creek				
La Prele Reservoir above, WY	Apr-Sep	3.1	60	5.2
North Platte River				
Alcova to Orin, WY gain	Apr-Jul	7.7	31	25
Alcova to Orin, WY gain	Apr-Sep	9.9	30	33
Glendo blo, WY	Apr-Sep	365	78	470
Guernsey Resv below, WY	Apr-Sep	400	80	500
Laramie River				
Woods Landing, WY	Apr-Sep	64	72	89
Little Laramie River				
Filmore, nr	Apr-Sep	31	66	47



Additional Water Supply Information for the Snake River Basin

The Snake River Basin continues to be under a severe hydrologic drought. Snowpack and precipitation numbers for late winter into early spring have been below average. Snowpack and/or snow water equivalent (SWE) data and data trends indicate that the spring and early summer snowmelt runoff in the Snake River Basin will be below average. The following graphics show the current water year trends in precipitation and snowpack averages for the entire Snake River Basin in Wyoming. Water supply forecasts indicate that the spring and early summer runoff will be about 80 percent of normal for the Snake River and its tributaries.





Water Supply Forecast for the Snake River Basin

Stream and Station	Forecast Period	Forecasts This Year Most Probable kaf	Forecasts This Year Most Probable %avg	30 Year '71-'00 Average Runoff kaf
Snake River				
Jackson Lake Inflow	Apr-Sep	700	77	817
Alpine nr, WY	Apr-Sep	2550	77	3331
Grey's River				
Palisades abv, WY	Apr-Sep	335	85	394
Salt River				
Etna nr, WY	Apr-Sep	290	85	419